DNA Gel Electrophoresis

Requirements

—50× TAE concentrate Solution (produced by Solarbio®)
—Agarose (produced by Biowest®)
—DNA dye (TransGen® GelStain)
—100mL Erlenmeyer flask
—Distilled water
—Microwave oven
—DNA samples
—10× Loading buffer (produced by Takara®)
—DNA marker (produced by TranGen®)
—Electrophoresis instrument

Before Starting:

—Dilute 50× TAE concentrate Solution to 1× TAE buffer with distilled water
—Add 10× loading buffer into marker and DNA samples. Loading buffer should occupy 10% of total volume.

Protocol:

1. Weigh 0.36g agarose in an Erlenmeyer flask.
2. Add 30mL 1× TAE buffer into the flask from Step 1.
3. Make agarose melt by microwave oven (medium-high heat, about 3 minutes).
4. Add 3μL TransGen® GelStain, mix by shocking.
5. Assemble gel pouring apparatus by inserting gate into slots.
6. Pour agarose gel into the gel tray.
7. Cool for 40 minutes to solidify the DNA agarose gel.
8. Remove the pouring apparatus, put the gel into an electrophoresis instrument.
9. Pipet marker and DNA samples which have been mixed with loading buffer into the slots.
10. Turn on the electrophoresis instrument, set the working electric current at 75-100mA.
11. Electrophoresis for 45-60 minutes.
12. Turn off the instrument, take the gel into the gel formatter to take and save photos.